WHAT IS CLAIMED IS:

1. A pharmaceutical composition comprising an effective amount of (R,R'),(R,S')-amphetaminil sulfate or another pharmaceutically-acceptable salt thereof, substantially free of (S,R'),(S,S')-amphetaminil, and at least one pharmaceutically-acceptable carrier, diluent, excipient or additive.

2. A controlled release formulation comprising the pharmaceutical composition of claim 1.

3. An immediate release formulation comprising the pharmaceutical composition of claim 1.

4. An oral dosage form comprising the pharmaceutical composition of claim 1 consisting of about 0.1 to about 100 mg of (R,R'),(R,S')-amphetaminil sulfate or another pharmaceutically-acceptable salt thereof.

5. The dosage form of claim 4 consisting of about 1 to about 50 mg of (R,R'),(R,S')-amphetaminil sulfate or another pharmaceutically-acceptable salt thereof.

6. The pharmaceutical composition of claim 1 wherein said (R,R'),(R,S')-amphetaminil sulfate or another pharmaceutically-acceptable salt thereof is greater than about 90% of the weight of total amphetaminil.

7. The pharmaceutical composition of claim 6 wherein said (R,R'),(R,S')-amphetaminil sulfate or another pharmaceutically-acceptable salt thereof is greater than about 95% of the weight of total amphetaminil.

8. The pharmaceutical composition of claim 7 wherein said (R,R'),(R,S')-amphetaminil sulfate or another pharmaceutically-acceptable salt thereof is greater than about 99% of the weight of total amphetaminil.

9. A method for prophylaxis or treatment of a human condition or disease requiring or benefitting from a central nervous stimulant comprising administering to said human an effective amount of a pharmaceutical composition comprising (R,R'),(R,S')-amphetaminil sulfate or another pharmaceutically-acceptable salt thereof, substantially free of (S,R'),(S,S')-amphetaminil.

10. The method of claim 9 wherein said administering is parenteral, transmucosal or transdermal.

11. The method of claim 10 wherein said transmucosal is orally, nasally, or rectally.

12. The method of claim 10 wherein said parenteral is intra-arterial, intravenous, intramuscular, intradermal, subcutaneous, intraperitoneal, intraventricular, or intracranial.

13. The method of claim 9 wherein the amount administered is about 0.1 to about 100 mg daily.

14. The method of claim 13 wherein said amount administered is about 1 to about 50 mg daily.

15. The method of claim 14 wherein the amount is administered from one to about four unit doses per day.

16. The method of claim 15 wherein the amount administered is one or two unit doses per day.

17. The method of claim 5 wherein the amount of (R,R'),(R,S')-amphetaminil sulfate or another pharmaceutically-acceptable salt thereof is greater than about 90% of the weight of the total amphetaminil.

18. The method of claim 17 wherein the amount of (R,R'),(R,S')-amphetaminil sulfate or another pharmaceutically-acceptable salt thereof is greater than about 95% of the weight of the total amphetaminil.

19. The method of claim 18 wherein the amount of (R,R'),(R,S')-amphetaminil sulfate or another pharmaceutically-acceptable salt thereof is greater than about 99% of the weight of the total amphetaminil.

20. The method of claim 9 wherein said amount of (R,R'),(R,S')-amphetaminil sulfate or another pharmaceutically-acceptable salt thereof, substantially free of (S,R'),(S,S')-amphetaminil is administered together with a pharmaceutically-acceptable carrier, diluent, excipient or additive.

21. The method of claim 9 wherein said condition or disease is narcolepsy, attention deficit hyperactivity disorder (ADHD), depression, Parkinson's disease, cognitive dysfunction, or Alzheimer's disease, renal dysfunction, asthma, obesity, nicotine withdrawal, hypotension, apathy, potentiating activity of a conventional antidepressant, potentiating an opiate for pain control, or reduced energy associated with chemotherapy or radiation therapy.

22. The method of claim 9 wherein said condition or disease is amenable to treatment by preferential activation of mesolimbic-mediated behavior.